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EXAMINER	
FLANDERS, ANDREW C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/921,171	CHAN ET AL.	
	Examiner	Art Unit	
	ANDREW C. FLANDERS	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10-17,19-25,27-47,49,53 and 55-70* is/are pending in the application.

4a) Of the above claim(s) *62-69* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10-17,19-25,27-47,49,53,55-61 and 70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/16/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10 March 2008 has been entered.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendments.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 7, 10 – 17, 19, 20, 22 – 25, 27, 28, 31, 32, 34 – 38, 40 – 45, 47, 49 and 53, 55 – 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U.S. Patent 6,763,458).

Regarding **Claims 1 and 2**, Watanabe discloses:

A computer system adapted to play audio files (200), said computer system comprising:

a system CPU (102);

a memory coupled to said system CPU (104);

at least one drive comprising compressed audio data coupled to said system CPU, said compressed audio data residing in an audio file (240-1 and 616);

wherein a play list software program selects and stores a play list comprising said audio file; (i.e. software for organizing the content and allowing the user to identify favorite audio files, storing them and providing a unique naming of the copy based on some naming convention; col. 37 lines 40 – 67 and col. 38 lines 1 – 7; and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35);

wherein a first operating system is adapted to control at least said system CPU and said memory (i.e. the primary operating system; cols. 37, 38); and

wherein a second operating system is adapted to retrieve said play list (i.e. in the digital audio mode selected by the mode selector switch when the system is off, the system creates a sequence based on what it finds that is prepared in the directory; col. 38 lines 8 - 35) and cause said drive to read said audio file from said play list (i.e. the system plays back the files stored on the drive thus it must read the audio files from the

drive for the decompression and play back); to cause said system CPU to decompress the compressed audio data of said audio file and provide decompressed audio data (system 200's CPU; col. 38 lines 44 – 50),

wherein said decompressed audio data is transferred from said system CPU to an output amplifier through a first transfer path if said computer system is operated by said first operating system (i.e. normal playback, not the off state the digital audio files played back are retrieved from the Major OS partition; Fig. 20 element 614; thus the playback path starts with the Major OS portion leading through the system to the audio output),

and wherein said decompressed audio data is transferred from said system CPU to said output amplifier through a second transfer path if said computer system is operated by said second operating system (i.e. off state playback, the audio files are retrieved from the compatible partition; figs 20 and 21; thus the playback path starts with the compatible leading through the system to the audio output; the two paths differing in the starting point of retrieval).

Watanabe does not explicitly disclose storing the second operating system in BIOS. However Watanabe discloses storing a first operating system in a first storage region and a second operating system in a second storage region (abstract). Watanabe also discloses in an IBM PC the system ROM stores the BIOS which is executed upon power-up by the processor; col. 2 lines 14 - 30; and further that it is desirable for an "instant-on" application for certain programs such as ROM based operating systems in addition to a general-purpose full operating system (col. 5 lines 29 - 43). Storing this

digital audio player program in the ROM/BIOS would have been obvious to one of ordinary skill in the art. One would have been motivated to do so to provide an "instant-on" system. Furthermore Applicant acknowledges that storing this in any ROM based memory is a known alternative to storing in the BIOS (disclosure p. 12).

Furthermore, the combination fails to explicitly disclose causing said decompressed audio data to be stored in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within the playback of the audio.

Regarding **Claims 3 – 6**, claims 3 – 6 are rejected under the same grounds as claim 1 stated above. Additionally, the claimed mini-operating system is equated with the second operating system in the rejection of claim 1. It is considered “mini” in that it is only suited to operate with a single specific task, namely playing audio files, rather than a general operating system like the first operating system. Further, Watanabe discloses an audio controller in element 122.

Regarding **Claims 7**, Watanabe discloses:

A computer system adapted to play audio files (200), said computer system comprising:

a system CPU (102);

a memory coupled to said system CPU (104);

at least one drive coupled to said system CPU comprising compressed audio data, said compressed audio data residing in an audio file (240-1 and 616);

wherein a first operating system is adapted to control at least said system CPU and said memory (i.e. the primary operating system; cols. 37, 38);

wherein a play list software program is executable under said first operating system (i.e. functionality to organize the files which causes the 'primary' operating system to organize the files; col. 37 lines 57 – 67; col. 38 lines 1 – 8), said play list software program being adapted to permit selection and storage of a play list comprising said audio file (i.e. software for organizing the content and allowing the user to identify favorite audio files, storing them and providing a unique naming of the copy based on some naming convention; col. 37 lines 40 – 67 and col. 38 lines 1 – 7; and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35); and

wherein a second operating system is adapted to retrieve said play list (i.e. in the digital audio mode selected by the mode selector switch when the system is off, the system creates a sequence based on what it finds that is prepared in the directory; col. 38 lines 8 - 35) and cause said drive to read said audio file from said play list (i.e. the system plays back the files stored on the drive thus it must read the audio files from the drive for the decompression and play back); to cause said system CPU to decompress the compressed audio data of said file and provide decompressed audio data (system 200's CPU; col. 38 lines 44 – 50),

wherein said decompressed audio data is transferred from said system CPU to an output amplifier through a first transfer path if said computer system is operated by said first operating system (i.e. normal playback, not the off state the digital audio files played back are retrieved from the Major OS partition; Fig. 20 element 614; thus the playback path starts with the Major OS portion leading through the system to the audio output),

and wherein said decompressed audio data is transferred from said system CPU to said output amplifier through a second transfer path if said computer system is operated by said second operating system (i.e. off state playback, the audio files are retrieved from the compatible partition; figs 20 and 21; thus the playback path starts with the compatible leading through the system to the audio output; the two paths differing in the starting point of retrieval).

Watanabe does not explicitly disclose storing the second operating system in BIOS. However Watanabe discloses storing a first operating system in a first storage region and a second operating system in a second storage region (abstract). Watanabe also discloses in an IBM PC the system ROM stores the BIOS which is executed upon power-up by the processor; col. 2 lines 14 - 30; and further that it is desirable for an "instant-on" application for certain programs such as ROM based operating systems in addition to a general-purpose full operating system (col. 5 lines 29 - 43). Storing this digital audio player program in the ROM/BIOS would have been obvious to one of ordinary skill in the art. One would have been motivated to do so to provide an "instant-

on" system. Furthermore Applicant acknowledges that storing this in any ROM based memory is a known alternative to storing in the BIOS (disclosure p. 12).

Furthermore, the combination fails to explicitly disclose causing said decompressed audio data to be stored in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth playback and avoid unnecessary gaps within the playback of the audio.

Regarding **Claim 10**, claim 10 is rejected under the same grounds as claim 7 stated above. Additionally, the claimed mini-operating system is equated with the second operating system in the rejection of claim 7. It is considered “mini” in that it is only suited to operate with a single specific task, namely playing audio files, rather than a general operating system like the first operating system. Further, Watanabe discloses an audio controller in element 122 which plays back the decoded audio data as controlled by the second operating system.

Regarding **Claims 11 and 12**, Watanabe discloses:

A method of playing audio files on a computer system (operation of 200 as disclosed in cols. 37 - 40), said method comprising:

booting a first operating system (i.e. starting the primary operating system; col. 37);

creating and storing a play list comprising a list of compressed audio files residing on at least one drive of a computer system having said at least one drive, a CPU, and a memory (computer having a drive 240-1, 616, a CPU 102, and a memory 104; software for organizing the content and allowing the user to identify favorite audio files while in the primary operating system; storing them and providing a unique naming of the copy based on some naming convention; col. 37 lines 40 – 67 and col. 38 lines 1 – 7; and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35);

terminating said first operating system (i.e. placing the system in the off state to prepare to enter the appliance mode; col. 38)

booting a second operating system upon activation of a switch, wherein said second operating system running instead of said first operating system to operate only to play said compressed audio files (pressing a dedicated boot mode selector switch to enter the information appliance mode to listen to the digital audio selections; col. 38), said second operating system being adapted to cause said system CPU to decompress said compressed audio files (system 200's CPU; col. 38 lines 44 – 50);

transferring said decompressed audio data from said CPU to an output amplifier through a first path if said computer system is operated by said first operating system (i.e. normal playback, not the off state the digital audio files played back are retrieved from the Major OS partition; Fig. 20 element 614; thus the playback path starts with the Major OS portion leading through the system to the audio output),

transferring said decompressed audio data from said CPU to said output amplifier through a second transfer path that differs from said first transfer path if said computer is operated by said second operating system (i.e. off state playback, the audio files are retrieved from the compatible partition; figs 20 and 21; thus the playback path starts with the compatible leading through the system to the audio output; the two paths differing in the starting point of retrieval)

reading said play list; reading said compressed audio files from said drive based on said play list (i.e. the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35);

providing said compressed audio files to said CPU for decompressing the data of said compressed audio file into decompressed audio data (col. 38 lines 35 – 57 and CPU 200; playback of MP3s requires decompression);

retrieving decompressed audio data for playing (i.e. playback of MP3s; col. 38).

Watanabe does not explicitly disclose storing the second operating system in BIOS. However Watanabe discloses storing a first operating system in a first storage region and a second operating system in a second storage region (abstract). Watanabe also discloses in an IBM PC the system ROM stores the BIOS which is executed upon power-up by the processor; col. 2 lines 14 - 30; and further that it is desirable for an "instant-on" application for certain programs such as ROM based operating systems in addition to a general-purpose full operating system (col. 5 lines 29 - 43). Storing this digital audio player program in the ROM/BIOS would have been obvious to one of ordinary skill in the art. One would have been motivated to do so to provide an "instant-

on" system. Furthermore Applicant acknowledges that storing this in any ROM based memory is a known alternative to storing in the BIOS (disclosure p. 12).

Furthermore, the combination fails to explicitly disclose causing said decompressed audio data to be stored in said memory. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth.

Regarding **Claim 13**, in addition to the elements stated above regarding the various independent claims, Watanabe further discloses

a first switch coupled to said system CPU, the activation of said first switch causing said first operating system to boot (i.e. the main power switch for activating the computer to load the primary operating system; 136); and

a second switch coupled to said system CPU, the activation of said second switch causing said second operating system to boot (i.e. the switch for entering appliance mode; col. 38).

Regarding **Claims 22**, in addition to the elements stated regarding claim 20, Watanabe further discloses:

wherein said audio controller is further adapted to cause said decompressed audio data to be retrieved for playing (i.e. reading the audio data from one of the drives

by the system to be passed to the audio controller 122) and once the audio data has been decompressed it is played back (audio playback)

Regarding **Claim 23**, in addition to the elements stated regarding claim 20, Watanabe further discloses:

wherein said drive is selected from the group consisting of: a hard disk, a removable disk, a floppy disk, a magnetic storage medium, an optical storage medium, and an IDE device (i.e. a hard disk).

Regarding **Claims 24**, in addition to the elements stated regarding claim 20, Watanabe further discloses:

wherein said compressed audio data is in a format selected from the group consisting of: MP3, WMA, AAC (i.e. an MP3 type player).

Regarding **Claim 25**, in addition to the elements stated above regarding claim 20, Watanabe further discloses:

further comprising at least one digital computer bus, wherein said audio controller is coupled to at least one of said system CPU, memory, and drive via said digital computer bus (i.e bus Fig. 1) and said bus transfers digital data (Bus couples the drives to the system and transfers the files)

Regarding **Claims 27**, in addition to the elements stated regarding claims 20 and 38, Watanabe further discloses:

further comprising an LCD interface for generating signals to an LCD display for displaying song name, file/directory name and/or timing data that includes an LCD display (computer display Fig. 1, not explicitly disclosed as an LCD however Examiner takes Official notice that LCD monitors for use with computers are notoriously well known and are desirable to use for their space savings.)

Regarding **Claims 28**, in addition to the elements stated regarding claim 20, Watanabe discloses:

further comprising a plurality of function keys and a function key interface operable with said plurality of function keys, said function keys generating user commands to said audio controller through said function key interface (keyboard; mouse; other I/O devices Fig. 1).

Regarding **Claims 31**, Watanabe further discloses:

wherein said audio controller is adapted not to cause said drive to read said compressed audio data, nor to cause said system CPU to decompress said compressed audio data, nor to cause said decompressed audio data to be stored in said memory, unless said computer system is off, in hibernate mode, in suspend to

HDD mode, or in one of power states S4 or S5 (i.e. the audio control system plays back audio when the system is in the off mode; col. 38).

Regarding **Claim 32**, Watanabe further discloses:

wherein said audio controller is adapted not to cause said drive to read said compressed audio data, nor to cause said system CPU to decompress said compressed audio data, nor to cause said decompressed audio data to be stored in said memory, when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of power states S0 or S3 (i.e. the audio control system plays back audio when the system is in the off mode and the appliance mode is activated; col. 38).

Regarding **Claims 34**, in addition to the elements stated above regarding claim 20, Watanabe further discloses:

wherein said compressed audio data is stored in one or more audio files on said drive (i.e. a Hard disk that stores compressed audio files Fig. 1; Fig. 21);

said computer system further comprising a play list software program for creating and storing a play list comprising one or more said audio files (software for organizing the content and allowing the user to identify favorite audio files while in the primary operating system; storing them and providing a unique naming of the copy based on some naming convention; col. 37 lines 40 – 67 and col. 38 lines 1 – 7; and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35)

Regarding **Claims 35**, in addition to the elements stated above regarding claim 34, Watanabe further discloses:

the play list software program is executable only when said computer is on or in power state S0 (i.e. the user manages files in the On state under the major OS)

Regarding **Claims 36**, in addition to the elements stated above regarding claim 35, Watanabe further discloses:

wherein said audio controller is further adapted to cause said drive to read said compressed audio data based, at least in part, on said stored play list (and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35) .

Regarding **Claim 41**, in addition to the elements stated regarding claim 38, Watanabe further discloses:

wherein said drive is selected from the group consisting of: a hard disk, a removable disk, a floppy disk, a magnetic storage medium, an optical storage medium, and an IDE device (i.e. hard disk)

Regarding **Claim 42**, in addition to the elements stated regarding claim 38, Watanabe further discloses:

wherein said compressed audio data is in a format selected from the group consisting of MP3, WMA and AAC, (i.e. MP3 col. 38)

Regarding **Claims 43, 59 and 61**, in addition to the elements stated regarding claims 38, 58 and 60, Watanabe further discloses:

generating signals to a display for displaying song name, file/directory name and/or timing data (display subsystem 130; user controls the system using the display and can organize via file names; cols. 37 – 38).

Watanabe does not explicitly disclose that the display is an LCD display. However, Examiner takes official notice that LCD displays for use with computer systems are notoriously well known in the art. Using one to as the display for Wanatabe is desirable for numerous reasons, one being space.

Regarding **Claim 44**, in addition to the elements stated regarding claim 38, Watanabe discloses:

a plurality of function keys, and wherein said method further comprises receiving user commands generated by at least one of said plurality of function keys and utilizing said user commands to control said playing (i.e. play back controls, power button, and boot selector button; col. 38 and 39).

Regarding **Claim 45**, in addition to the elements stated regarding claim 38, Watanabe discloses:

further comprising a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU (i.e. interrupts from the boot switch to control boot sequence; col. 11 lines 25 – 35).

Regarding **Claims 47 and 49**, claims 47 and 49 are rejected under the same grounds as claims 31 and 32 as stated above.

Regarding **Claim 55**, Watanabe discloses:

A method of playing audio files on a computer system (system 200 in view of audio player mode in cols 37 – 39), said method comprising:

when said computer system is on, in sleep mode, in suspend to RAM mode, or in one of power states S0 or S3 (i.e. full power mode/primary operating system mode) creating and storing a play list comprising a list of compressed audio files residing on one or more drives of a computer having at least a drive, a CPU, and a memory (computer having a drive 240-1, 616, a CPU 102, and a memory 104; software for organizing the content and allowing the user to identify favorite audio files while in the primary operating system; storing them and providing a unique naming of the copy based on some naming convention; col. 37 lines 40 – 67 and col. 38 lines 1 – 7; and the digital audio player sequentially plays the prepared directory; col. 38 lines 25 – 35), wherein said list of compressed audio files is stored for playback using a mini operating system operating independently of a first operating system controlling said computer system (i.e. the created sequence which is prepared for playback in the digital audio appliance mode; col. 38), wherein said mini operating system is operable only to play compressed audio data when said computer system is off (i.e. digital audio appliance mode is configured to play audio files and nothing more; cols. 37 – 49); and

when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5 (i.e. digital audio player appliance mode; col. 38), reading said play list (i.e. finding the created sequence; col. 38);

when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5 (i.e. digital audio player appliance mode; col. 38), reading said compressed audio files from said drive based on said play list (i.e. finding the created sequence and playing them one after the other; col. 38);

when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5 (i.e. digital audio player appliance mode; col. 38), providing said compressed audio data to said CPU for decompressing the data of said compressed audio file into decompressed audio data (col. 38 lines 35 – 57 and CPU 200; playback of MP3s requires decompression);

wherein said decompressed audio data is transferred from said system CPU to an output amplifier through a first transfer path if said computer system is operated by said first operating system (i.e. normal playback, not the off state the digital audio files played back are retrieved from the Major OS partition; Fig. 20 element 614; thus the playback path starts with the Major OS portion leading through the system to the audio output),

and wherein said decompressed audio data is transferred from said system CPU to said output amplifier through a second transfer path if said computer system is operated by said second operating system (i.e. off state playback, the audio files are retrieved from the compatible partition; figs 20 and 21; thus the playback path starts with

the compatible leading through the system to the audio output; the two paths differing in the starting point of retrieval), and

when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5 (i.e. digital audio player appliance mode; col. 38), retrieving decompressed audio data for playing (i.e. playing back digital audio using the dedicated appliance boot mode; col. 38).

Watanabe fails to explicitly disclose when said computer system is off, in hibernate mode, in suspend to HDD mode, or in one of power states S4 or S5 (i.e. Watanabe's appliance mode) storing said decompressed audio data in said memory and retrieving it. However, Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time of the invention to store the decompressed data prior to the A/D conversion. One would have been motivated to do so to buffer the data in order to provide a smooth.

Regarding **Claim 70**, in addition to the elements stated above regarding claim 1, Watanabe further discloses:

a special purpose circuit (MP3 Player Fig. 21) configured by said system CPU to receive at lease one control command from said memory if said computer system is operated by said second operating system (i.e. retrieve data for playback in appliance mode; decompress data; output data to 746; in response to playback commands),

wherein said decompressed audio data from said system CPU is transferred through said special purpose circuit to said output amplifier in response to said at least

one control command (i.e. playing back audio data via the speakers in response to a user command; Fig. 21 and its disclosure).

Regarding **Claims 14 –17, 19, 20, 37, 38, 40, 53, 56 – 58 and 60** claims 14 – 20, 38, 40, 53, 56 – 58 and 60 claim limitations which are met by the rejections of the independent claims listed above.

Claims 21 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U.S. Patent 6,763,458) in view of Birrell (U.S. Patent 6,332,175).

Regarding **Claim 21**, in addition to the elements stated regarding claim 20, Watanabe fails to explicitly disclose the limitations taught in claim 20.

In similiar field of endeavor (i.e. low power audio playback) Birrell applied to Watanabe discloses:

wherein said audio controller is further adapted to place said CPU in standby state when said system CPU is not decompressing said compressed audio data (i.e. the control programs include a power down procedure (col. 5 lines 24 – 25) and in a

preferred embodiment, one predefined power down condition is data is not being played (col. 7 lines 22 – 24).

It would have been obvious to one of ordinary skill in the art to apply the teachings of Birrell to Watanabe in order to realize further power savings in the combination.

Regarding **Claim 39**, Watanabe does not explicily disclose placing said CPU in a standby state when said system CPU is not decompressing said compressed audio data.

Birrell discloses:

wherein said audio controller is further adapted to place said CPU in standby state when said system CPU is not decompressing said compressed audio data (i.e. the control programs include a power down procedure (col. 5 lines 24 – 25) and in a preferred embodiment, one predefined power down condition is data is not being played (col. 7 lines 22 – 24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply Birrell's power saving teachings to Watanabe's audio appliance mode for the purpose of saving power.

Claims 29, 30, 33 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U.S. Patent 6,763,458) in view of Alexander (U.S. Patent 6,380,968).

Regarding **Claims 29**, in addition to the elements stated above regarding claim 28, Watanabe does not explicitly disclose a software driver receives interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU.

Alexander discloses:

. a software driver receives interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU (i.e. a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14)

One of ordinary skill in the art at the time of the invention would have been motivated to use Alexander's interrupts to alert Watanabe's CPU of user inputs. Watanabe does not explicitly disclose how the device processes user inputs and using interrupts as Alexander discloses would have been obvious to one of ordinary skill in the art at the time of the invention to permit various changes in state of the device.

Regarding **Claims 30**, in addition to the elements stated above regarding claim 29, Watanabe does not disclose the CPU utilizing interrupts to control a standard audio player software.

Alexander discloses:

wherein said CPU utilizes said interrupts to control a standard audio player software (i.e. a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14)

Motivation to combine these elements is given above regarding claim 29.

Regarding **Claims 33**, in addition to the elements stated above regarding claim 29, Watanabe does not explicitly disclose a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU.

Alexander discloses:

further comprising a software driver for receiving interrupts generated by at least one of said plurality of function keys and for passing said interrupts to said system CPU (i.e. a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 – 14)

Motivation to combine these elements is given above regarding claim 29.

Moreover, neither Watanabe nor Alexander discloses the software driver not doing these operations unless the computer system is on. However, it is obvious that this would be the case. If the system were not on, there would be no power available and the interrupts would not be sent thus reading on the limitation wherein the software

driver is adapted to not do these operations unless the computer system is on, in sleep mode, in suspend to RAM mode, or in one of the power states S0 or S3.

Regarding **Claims 46**, in addition to the elements stated above regarding claim 38, Watanabe discloses:

standard audio player software (col. 38)

Watanabe does not disclose the CPU utilizing interrupts to control standard audio player software.

Alexander discloses:

wherein said CPU utilizes said interrupts to control said standard audio player software (i.e. a cursor detect circuit that receives an interrupt from a user input device, determines the nature of the interrupt and instructs the microcontroller of it (col. 7 lines 11 - 14)

One of ordinary skill in the art at the time of the invention would have been motivated to use Alexander's interrupts to alert Watanabe's device of user inputs. Watanabe does not explicitly disclose how the device processes user inputs and using interrupts as Alexander discloses would have been obvious to one of ordinary skill in the art at the time of the invention to permit various changes in state of the device.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 – 7, 10 – 17, 19, 20, 37, 38, 53, 55 – 58 and 60 of 09/921,171 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 4 of copending Application No. 09/969,060. Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims in the ‘171 and the ‘060 application do not differ significantly. Minor differences in terminology exist and minor components are added or removed. In the '060 application, a volume serial number is part of the play list for identifying the location of audio files. However, this is notoriously well known in the art to use a volume serial number to locate various files. Additionally, the ‘171 application often claims a "mini" OS, which is essentially the second operating system claimed in the '060 application. The second operating system is a limited component operating system that involves few of the main computers components and thus can be considered to be "mini".

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1 – 7, 10 – 17, 19, 20, 37, 38, 53, 55 – 58 and 60 of 09/921,171 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8, 14 and 18 of copending Application No. 10/272,740. Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims in the '171 and the '740 application do not differ significantly. Minor differences in terminology exist and minor components are added or removed. In the '740 application, a voice input function is provided. However, this is notoriously well known in the art to use in an audio playback. These features are often provided on the same device to allow the user record memos. Additionally, the '171 application often claims a "mini" OS, which is essentially the second operating system claimed in the '740 application. The second operating system is a limited component operating system that involves few of the main computers components and thus can be considered to be "mini". Further, the '740 application claims transferring from a south bridge, however, a south bridge is a notoriously well known part of a computer system which handles data transfer. It is obvious that many PC transfer data via this interface.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW C. FLANDERS whose telephone number is (571)272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7546. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/acf/

/Sinh N Tran/
Supervisory Patent Examiner, Art Unit 2615